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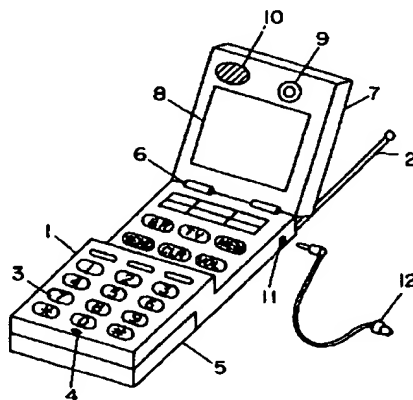
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(54) 【発明の名称】 携帯無線式TV電話

(57) 【要約】

【目的】 フリップ部を開いたとき、モニター、CCDカメラ、スピーカに向かって一定の距離を保ち、TVモニターを視認しながらスピーカホンまたはイヤホンにより無線式TV電話として利用でき、またフリップ部を閉じ、装置本体側にTVモニターが格納された時、イヤピースに耳を当て、通常の携帯電話として利用することができるようにした携帯無線式TV電話を提供する。

【構成】 装置本体1に操作部と、マイク4を備え、また前記装置本体1にヒンジ6で連結されたフリップ部7を備えており、前記フリップ部7を閉じた時に装置本体1に格納されるフリップ部7の表面にモニターと、CCDカメラ9と、スピーカ10を、フリップ部7を閉じたとき操作部と同一面側となるフリップ部7裏面にイヤピースを備えている。



## 【特許請求の範囲】

【請求項1】装置本体にキー操作部と、マイクを備え、また前記装置本体にヒンジで連結されたフリップ部を備えており、前記フリップ部を閉じた時に装置本体に格納されるフリップ部の表面にモニターと、CCDカメラと、スピーカを、フリップ部を閉じたときキー操作部と同一面側となるフリップ部裏面にイヤピースを備え、フリップ部を開いたとき、前記モニター、CCDカメラ、スピーカに向かって一定の距離を保ち、モニターを視認しながらスピーカホンまたはイヤホンにより無線式TV電話として利用でき、またフリップ部を閉じ、装置本体側に前記モニターが格納された時、前記イヤピースに耳を当てて通常の携帯電話として利用することができるようにした携帯無線式TV電話。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】本発明は、画像・文字等の静止画または動画および音声情報等を送受信可能なTV電話機能を備えた携帯無線電話に関するものである。

## 【0002】

【従来の技術】近年、画像・文字等の静止画または動画および音声情報等を送受信可能な携帯無線式TV電話はデジタルセルラー式電話、次世代コードレス電話（PHP）等、無線通信のデジタル化及びサービスの高機能化に伴い、商品化されるようになってきた。

【0003】以下、図面を参照しながら従来の携帯無線式TV電話について説明を行う。図3は従来の携帯無線式TV電話のフリップ部を開いた状態の構成を示す外観図であり、図3に於いて、1は無線・制御回路を内蔵した装置本体、2は無線電波の送受信をするアンテナ、3は電話番号等を入力するキー操作部、4は音声入力をするマイク、5は電源を供給するバッテリー部、6は回動可能なヒンジ、7はヒンジ6により装置本体1に連結されたフリップ部、8はキー操作部3より入力された電話番号等あるいは相手側から送られてくる文字、画像情報を映す液晶モニター、9は本装置側の利用者の画像情報を相手側に送るためのCCDカメラ、10はスピーカホンとして受話音を出力するスピーカ、11はイヤホン端子、12はイヤホン端子11に接続し、周囲の騒音で聞き取りにくい時、或いは周囲に相手の話を聞かれない場合に用いるイヤホンである。また、図4は同じく従来の携帯無線式TV電話のフリップ部を閉じた状態の構成を示す斜視図である。

【0004】以上のように構成された従来の携帯無線式TV電話について、以下その動作を説明する。相手側のTV電話端末と音声・画像情報を送受信する場合、装置本体1とヒンジ6で連結されたフリップ部7を開き、液晶モニター8とCCDカメラ9を視認しやすい位置に回動して固定し、液晶モニター8と一定の距離をもって保持する。

【0005】次に電源をONすると、装置本体1に装着されたバッテリー部5により電源が供給され、装置本体1のキー操作部3から液晶モニター8で視認しながら相手側端末の電話番号を入力し、装置本体1の制御・無線回路を介して、アンテナ2から無線信号を発信し、発呼動作をおこなう。つづいて相手側の端末と無線での回線結合後、音声・画像・文字信号は無線信号を媒体としてアンテナ2を通じて端末間で送受信し、相手側端末から受信される音声情報はスピーカホンとして動作するスピーカ10またはイヤホン端子11に接続されたイヤホン12から音声出力され、画像・文字情報は液晶モニター8により出力される映像として受けることができる。また、相手側端末へ送信する音声情報はマイク4により音声入力され、画像情報はCCDカメラ9に画像入力され、相手側に伝送される。

【0006】一方、相手側端末がTV電話機能のない音声通信機能のみの電話機の場合、前記動作と同様の方法で液晶モニター8、CCDカメラ9をOFFにして音声情報のみの無線通信をおこなう。

## 【0007】

【発明が解決しようとする課題】しかしながら、上記した従来の携帯無線式TV電話では、相手側端末もTV電話機能を有する場合は問題ないが、相手側端末が音声通信機能のみの場合、スピーカホンやイヤホンでは通話しづらいという問題点を有していた。

【0008】本発明は上記課題を解決し、相手側端末が音声通信機能のみの場合に、通常の携帯無線電話と同様にして装置本体のイヤピース部に耳を当てて利用可能な携帯無線式TV電話を提供することを目的としている。

## 【0009】

【課題を解決するための手段】本発明は上記目的を達成するために、装置本体にキー操作部と、マイクを備え、また前記装置本体にヒンジで連結されたフリップ部を備えており、前記フリップ部を閉じた時に装置本体に格納されるフリップ部の表面にモニターと、CCDカメラと、スピーカを、フリップ部を閉じたときキー操作部と同一面側となるフリップ部裏面にイヤピースを備え、フリップ部を開いたとき前記モニター、CCDカメラ、スピーカに向かって一定の距離を保ち、モニターを視認しながらスピーカホンまたはイヤホンにより無線式TV電話として利用でき、またフリップ部を閉じ、装置本体側に前記モニターが格納された時、前記イヤピースに耳を当てて通常の携帯電話として利用することができるようにしたものである。

## 【0010】

【作用】本発明は上記した構成により、相手側端末もTV電話機能を有する場合はフリップ部を開き、上記モニター、CCDカメラ、スピーカに向かって一定の距離を保ち、スピーカホンにより無線TV電話として画像・文字情報及び音声情報による通信ができ、また相手側端末

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が音声通信機能のみの場合はフリップ部を閉じ、イヤピース部を耳に当て通常の携帯電話として利用することができるものである。

【0011】

【実施例】以下、本発明の一実施例について、図面を参照しながら説明する。

【0012】図1に於て、1は無線・制御回路を内蔵した装置本体、2は無線電波の送受信をするアンテナ、3は電話番号等を入力するキー操作部、4は音声入力をするマイク、5は電源を供給するバッテリー部、6は回動可能なヒンジ、7はヒンジ6により装置本体1に連結されたフリップ部、8はキー操作部3より入力された電話番号等あるいは相手側から送られてくる文字、画像情報を映す液晶モニター、9は本装置側の利用者の画像情報を相手側に送るためのCCDカメラ、10はスピーカホンとして受話音を出力するスピーカ、11はイヤホン端子、12はイヤホン端子11に接続し、周囲の騒音で聞き取りにくい時、或いは周囲に相手の話を聞かれない場合に用いるイヤホンであり、以上は従来例と同様である。また、図2は同じく携帯無線式TV電話のフリップ部を閉じた状態の構成を示す外観図であり、13は音声通信のみのときに受話音を出力するイヤピース、14は電話番号等の文字情報を表示するセグメント表示部である。

【0013】以上のように構成された本実施例の携帯無線式TV電話について、以下その動作を説明する。相手側のTV電話端末と音声・画像情報を送受信する場合、装置本体1とヒンジ6で連結されたフリップ部7を開き、液晶モニター8とCCDカメラ9を視認しやすい位置に回動して固定し、液晶モニター8と一定の距離をもって保持する。次に電源をONすると、装置本体1に装着されたバッテリー部5により電源が供給され、装置本体1のキー操作部3から液晶モニター8で視認しながら相手側端末の電話番号を入力し、装置本体1の制御・無線回路を介して、アンテナ2から無線信号を発信し、発呼動作をおこなう。

【0014】つづいて相手側の端末と無線での回線結合後、音声・画像・文字信号は無線信号を媒体として端末間でアンテナ2を通じて送受信し、相手側端末から受信される音声情報はスピーカホンとして動作するスピーカ10またはイヤホン端子11に接続されたイヤホン12から音声出力され、画像・文字情報は液晶モニター8により出力される映像として受けることができる。また、相手側端末へ送信する音声情報はマイク4により音声入力され、画像情報はCCDカメラ9に画像入力され、相手側に伝送される。

【0015】一方、相手側の端末がTV電話機能のない音声通信機能のみの電話機の場合、もしくは音声情報のみの送受信をしたい場合、図2に示すようにフリップ部

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7を閉塞し、液晶モニター8、CCDカメラ9をOFFにした状態で、電源をONすると、装置本体1に装着されたバッテリー部5により電源が供給され、装置本体1のキー操作部3からセグメント表示部14で視認しながら相手側端末の電話番号を入力し、装置本体1の制御・無線回路を介して、アンテナ2から無線信号を発信し、発呼動作をおこなう。

【0016】つづいて相手側の端末と無線での回線結合後、音声信号は無線信号を媒体として端末間で送受信し、相手側端末から受信される音声情報はイヤピース13またはイヤホン端子11に接続されたイヤホン12から音声出力され、受けることができる。また、相手側端末へ送信する音声情報はマイク4により音声入力され、相手側に伝送される。従って、音声のみの無線通信をおこなう場合は一定の距離を保持したスピーカホンによる通話でなく、フリップ部7を閉塞することにより通常の携帯無線電話と同様にイヤピース13を耳に当てて通話することができる。

【0017】

【発明の効果】以上のように本発明は、相手側端末もTV電話機能を有する場合はフリップ部を開き、上記モニター、CCDカメラ、スピーカに向かって一定の距離を保ち、スピーカホンにより無線TV電話として画像・文字情報及び音声情報による通信ができ、また相手側端末が音声通信機能のみの場合はフリップ部を閉じ、イヤピース部を耳に当て、通常の携帯電話として利用可能な携帯無線式TV電話を提供することができる。

【図面の簡単な説明】

【図1】本発明の一実施例に於ける携帯無線式TV電話のフリップ部を開いた状態の構成を示す外観図

【図2】同携帯無線式TV電話のフリップ部を閉じた状態の構成を示す外観図

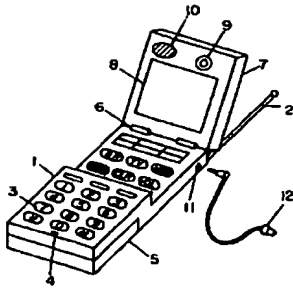
【図3】従来の携帯無線式TV電話のフリップ部を開いた状態の構成を示す外観図

【図4】同携帯無線式TV電話のフリップ部を閉じた状態の構成を示す斜視図

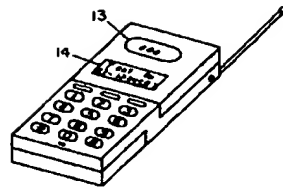
【符号の説明】

- 1 装置本体
- 2 アンテナ
- 3 キー操作部
- 4 マイク
- 5 バッテリー部
- 6 ヒンジ
- 7 フリップ部
- 8 液晶モニター
- 9 CCDカメラ
- 10 スピーカ
- 11 イヤホン端子
- 12 イヤホン

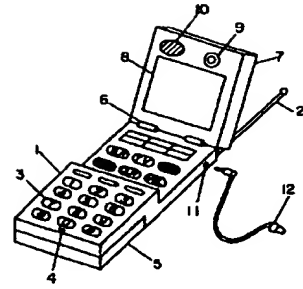
【図1】



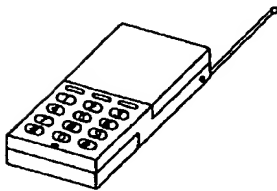
【図2】



【図3】



【図4】



# PATENT ABSTRACTS OF JAPAN

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LTD

(22)Date of filing : 31.03.1993

(72)Inventor : KITAMURA SHINICHI

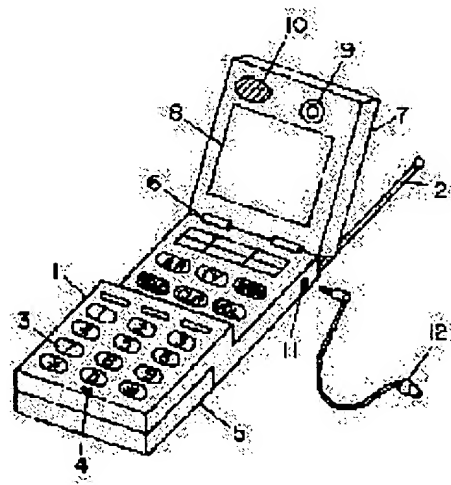
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## (54) PORTABLE RADIO TYPE TV TELEPHONE

### (57)Abstract:

PURPOSE: To use a telephone as an ordinary portable telephone by applying an earpiece part to the ear by closing a flip part equipped with an earpiece on a back surface flush with a key operating part when the other terminal party side is the one with only a voice communications function.

CONSTITUTION: The key operating part 3 and a microphone 4 are provided to a device main body 1, and also, the flip part 7 connected to the device main body 1 with a hinge 6 is provided. Also, a monitor 8, a CCD camera 9, and a speaker 10 are provided on the surface of the flip part 7 housed in the device main body 1 when the flip part 7 is closed, and the earpiece on the back surface of the flip part 7 flush with the operating part 3 when the flip part 7 is closed. The telephone can be used as a radio type TV telephone by the speaker 10 or an earphone 12 as keeping a certain distance and observing visually the monitor 8. When the flip part 7 is opened and also, it is used as an ordinary portable telephone by applying the earpiece to the ear when the flip part 7 is closed.



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## LEGAL STATUS

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[Date of final disposal for application]

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CLAIMS

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[Claim(s)]

[Claim 1] On the front face of the flip section stored in the body of equipment when it has the flip section which equipped the body of equipment with the key stroke section and a microphone, and was connected with said body of equipment with the hinge and said flip section is closed, with a monitor When the flip section rear face which serves as a CCD camera the same field side as the key stroke section in a loudspeaker when the flip section is closed is equipped with IYAPISU and the flip section is opened, A fixed distance is maintained toward said monitor, a CCD camera, and a loudspeaker. It can use as a wireless type TV telephone by the loudspeaker telephone or the earphone, checking a monitor by looking. Moreover, the walkie-talkie type TV telephone applies a lug to said IYAPISU and it enabled it to use as a usual cellular phone when the flip section was closed and said monitor was stored in the body side of equipment.

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[Translation done.]

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the portable radiotelephone equipped with TV telephone function which can transmit and receive a still picture or an animation, speech information, etc., such as an image and an alphabetic character.

[0002]

[Description of the Prior Art] In recent years, the walkie-talkie type TV telephone which can transmit and receive a still picture or an animation, speech information, etc., such as an image and an alphabetic character, has come to be commercialized with digitization of radio, such as a digital cellular type telephone and a next-generation cordless telephone (PHP), and advanced features of service.

[0003] Hereafter, the conventional walkie-talkie type TV telephone is explained, referring to a drawing. Drawing 3 is the external view showing the configuration in the condition of having opened the flip section of the conventional walkie-talkie type TV telephone. The body of equipment with which 1 built in wireless and a control circuit in drawing 3, the antenna with which 2 transmits and receives a wireless electric wave, The key stroke section into which 3 inputs the telephone number etc., the microphone with which 4 carries out voice input, The dc-battery section to which 5 supplies a power source, a hinge with rotatable 6, the flip section by which 7 was connected with the body 1 of equipment with the hinge 6, The alphabetic character sent from the other party, such as the telephone number as which 8 was inputted from the key stroke section 3, A CCD camera for the liquid crystal display monitor which projects image information, and 9 to send the image information of the user by the side of this equipment to the other party, When connecting to an earphone terminal the loudspeaker to which 10 outputs a receiver sound as a loudspeaker telephone, and 11, 12 is connected to the earphone terminal 11 and it is hard to catch in the surrounding noise, it is the earphone used when not asking a partner's talk to a perimeter. Moreover, drawing 4 is the perspective view showing the configuration in the condition of having closed the flip section of the same conventional walkie-talkie type TV telephone.

[0004] About the conventional walkie-talkie type TV telephone constituted as mentioned above, the actuation is explained below. When transmitting and receiving TV telephone terminal, and voice and image information of the other party, the flip section 7 connected with the body 1 of equipment with the hinge 6 is opened, and it rotates and fixes to the location which is easy to check a liquid crystal display monitor 8 and CCD camera 9 by looking, and holds with a liquid crystal display monitor 8 and a fixed distance.

[0005] Next, if a power source is turned on, a power source is supplied by the dc-battery section 5 with which the body 1 of equipment was equipped, the telephone number of an other party terminal will be inputted, checking by looking with a liquid crystal display monitor 8 from the key stroke section 3 of the body 1 of equipment, a radio signal will be sent from an antenna 2 through control and the wireless circuit of the body 1 of equipment, and call origination actuation will be performed. Voice, an image, and an alphabetic signal are transmitted [ after circuit joining together by the terminal and wireless of the other party ] continuously, and received between terminals through an antenna 2 through a radio



signal, the voice output of the speech information received from an other party terminal is carried out from the earphone 12 connected to the loudspeaker 10 which operates as a loudspeaker telephone, or the earphone terminal 11, and an image and text can be received as an image outputted with a liquid crystal display monitor 8. Moreover, voice input of the speech information which transmits to an other party terminal is carried out with a microphone 4, an image input is carried out and image information is transmitted to CCD camera 9 at the other party.

[0006] On the other hand, in the case of the telephone of only the voice communication function in which TV telephone function does not have an other party terminal, a liquid crystal display monitor 8 and CCD camera 9 are turned OFF by the same approach as said actuation, and radio of only speech information is performed.

[0007]

[Problem(s) to be Solved by the Invention] However, by above-mentioned conventional walkie-talkie type TV telephone, although it was satisfactory when an other party terminal also had TV telephone function, only in the case of the voice communication function, the other party terminal had the trouble of being hard to talk over the telephone, by the loudspeaker telephone or the earphone.

[0008] This invention solves the above-mentioned technical problem, and the other party terminal aims at only in the case of a voice communication function, applying a lug to the IYAPISU section of the body of equipment like the usual portable radiotelephone, and offering an available walkie-talkie type TV telephone.

[0009]

[Means for Solving the Problem] This invention equips the body of equipment with the key stroke section and a microphone, in order to attain the above-mentioned purpose. On the front face of the flip section stored in the body of equipment when it has the flip section connected with said body of equipment with the hinge and said flip section is closed, with moreover, a monitor The flip section rear face which serves as a CCD camera the same field side as the key stroke section in a loudspeaker when the flip section is closed is equipped with IYAPISU. When the flip section is opened, a fixed distance is maintained toward said monitor, a CCD camera, and a loudspeaker. When it can use as a wireless type TV telephone by the loudspeaker telephone or the earphone, and the flip section is closed and said monitor is stored in the body side of equipment, checking a monitor by looking, a lug is applied to said IYAPISU and it enables it to use as a usual cellular phone.

[0010]

[Function] By the above-mentioned configuration, this invention opens the flip section, when an other party terminal also has TV telephone function. A fixed distance is maintained toward the above-mentioned monitor, a CDD camera, and a loudspeaker. The communication link by the image, text, and speech information can be performed as a wireless TV telephone with a loudspeaker telephone, and only in the case of a voice communication function, an other party terminal can close the flip section, can apply the IYAPISU section to a lug, and can use as a usual cellular phone.

[0011]

[Example] Hereafter, one example of this invention is explained, referring to a drawing.

[0012] The body of equipment with which 1 built in wireless and a control circuit in drawing 1 , the antenna with which 2 transmits and receives a wireless electric wave, The key stroke section into which 3 inputs the telephone number etc., the microphone with which 4 carries out voice input, The dc-battery section to which 5 supplies a power source, a hinge with rotatable 6, the flip section by which 7 was connected with the body 1 of equipment with the hinge 6, The alphabetic character sent from the other party, such as the telephone number as which 8 was inputted from the key stroke section 3, A CCD camera for the liquid crystal display monitor which projects image information, and 9 to send the image information of the user by the side of this equipment to the other party, When connecting to an earphone terminal the loudspeaker to which 10 outputs a receiver sound as a loudspeaker telephone, and 11, 12 is connected to the earphone terminal 11 and it is hard to catch in the surrounding noise, it is the earphone used when not asking a partner's talk to a perimeter, and the above is the same as that of the conventional example. Moreover, drawing 2 is the external view showing the configuration in the

condition of similarly having closed the flip section of a walkie-talkie type TV telephone, and IYAPISU by which 13 outputs a receiver sound at the time only of voice communication, and 14 are segment displays which display text, such as the telephone number.

[0013] About the walkie-talkie type TV telephone of this example constituted as mentioned above, the actuation is explained below. When transmitting and receiving TV telephone terminal, and voice and image information of the other party, the flip section 7 connected with the body 1 of equipment with the hinge 6 is opened, and it rotates and fixes to the location which is easy to check a liquid crystal display monitor 8 and CCD camera 9 by looking, and holds with a liquid crystal display monitor 8 and a fixed distance. Next, if a power source is turned on, a power source is supplied by the dc-battery section 5 with which the body 1 of equipment was equipped, the telephone number of an other party terminal will be inputted, checking by looking with a liquid crystal display monitor 8 from the key stroke section 3 of the body 1 of equipment, a radio signal will be sent from an antenna 2 through control and the wireless circuit of the body 1 of equipment, and call origination actuation will be performed.

[0014] Voice, an image, and an alphabetic signal are transmitted [ after circuit joining together by the terminal and wireless of the other party ] continuously, and received through an antenna 2 between terminals through a radio signal, the voice output of the speech information received from an other party terminal is carried out from the earphone 12 connected to the loudspeaker 10 which operates as a loudspeaker telephone, or the earphone terminal 11, and an image and text can be received as an image outputted with a liquid crystal display monitor 8. Moreover, voice input of the speech information which transmits to an other party terminal is carried out with a microphone 4, an image input is carried out and image information is transmitted to CCD camera 9 at the other party.

[0015] On the other hand, in the case of the telephone of only the voice communication function in which TV telephone function does not have the terminal of the other party, where it blockaded the flip section 7 as shown in drawing 2 , and a liquid crystal display monitor 8 and CCD camera 9 are turned OFF, to carry out transmission and reception of only speech information A power source will be supplied by the dc-battery section 5 with which the body 1 of equipment was equipped if a power source is turned on. The telephone number of an other party terminal is inputted checking by looking by the segment display 14 from the key stroke section 3 of the body 1 of equipment, a radio signal is sent from an antenna 2 through control and the wireless circuit of the body 1 of equipment, and call origination actuation is performed.

[0016] A sound signal is continuously transmitted [ after circuit joining together by the terminal and wireless of the other party ] and received between terminals through a radio signal, the voice output of the speech information received from an other party terminal is carried out, and it can be received from the earphone 12 connected to IYAPISU 13 or the earphone terminal 11. Moreover, voice input of the speech information which transmits to an other party terminal is carried out with a microphone 4, and it is transmitted to the other party. Therefore, when performing audio radio, by blockading the not a message but flip section 7 by the loudspeaker telephone holding a fixed distance, IYAPISU 13 can be applied to a lug like the usual portable radiotelephone, and it can talk over the telephone.

[0017]

[Effect of the Invention] As mentioned above, this invention opens the flip section, when an other party terminal also has TV telephone function. A fixed distance is maintained toward the above-mentioned monitor, a CCD camera, and a loudspeaker. The communication link by the image, text, and speech information can be performed as a wireless TV telephone with a loudspeaker telephone, and only in the case of a voice communication function, the flip section can be closed, and an other party terminal can apply the IYAPISU section to a lug, and can offer a walkie-talkie type TV telephone available as a usual cellular phone.